Remarks:

These remarks are responsive to the final Office action dated April 6, 2006. Claims 1-13, 15, 16, 18-21, and 41-52 are pending in the application. (Please note that claim 17 was canceled in a previous response to Office action.) In the Office action, the Examiner (1) restricted the claims to one of three groups under 35 U.S.C. § 121, (2) alleged a constructive election of the first group, (3) withdrew claims 15, 16, 18-21, 41-50, and 52 from consideration based on the constructive election, and (4) rejected claims 1-13 and 51 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,221,654 to Quake et al. ("Quake") in view of U.S. Patent No. 6,432,630 to Blankenstein ("Blankenstein").

Applicants traverse the rejection of the claims and also traverse the Examiner's assertion of a constructive election of a group of claims and withdrawal of claims from consideration based on the constructive election. Furthermore, applicants have presented remarks showing that the claims are not obvious over the cited references and that withdrawal of claims without an election by applicants is improper. Accordingly, applicants respectfully request reconsideration of the application under 37 C.F.R. § 1.113 and allowance of the pending claims.

I. Rejections under 35 U.S.C. § 103

The Examiner rejected claims 1-13 and 51 under 35 U.S.C. § 103(a) as being unpatentable over Quake in view of Blankenstein. Applicants traverse the rejection. Neither reference, taken alone or in combination, teaches or suggests a transport mechanism "configured to move particles by dielectrophoresis," as recited by claim 1.

Quake involves a method and apparatus for analysis and sorting of polynucleotides by size, and does not teach or suggest a transport mechanism configured to move particles by dielectrophoresis. In the Office action, the Examiner reached the same conclusion.

Blankenstein relates to a micro-flow system for particle separation and analysis. Figure 1 illustrates the principle by which Blankenstein separates particles:

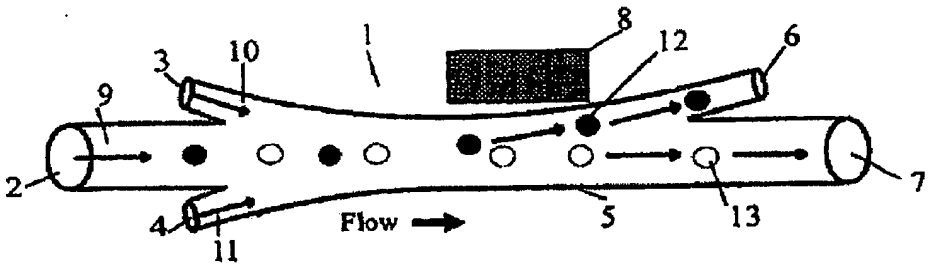

Fig. 1

Particles enter flow channel 5 by fluid flow and guided by flow of buffers 10 and 11, which enter flow channel 5 from ports 3 and 4. A separation mechanism such as a magnet 8 "generates a magnetic field across the flow channel 5," (col. 13, line 5; emphasis added by applicants), to urge particles out of the main flow stream to sort outlet 6.

Blankenstein also discloses the use of dielectrophoresis for particle separation, as illustrated in Figure 3:

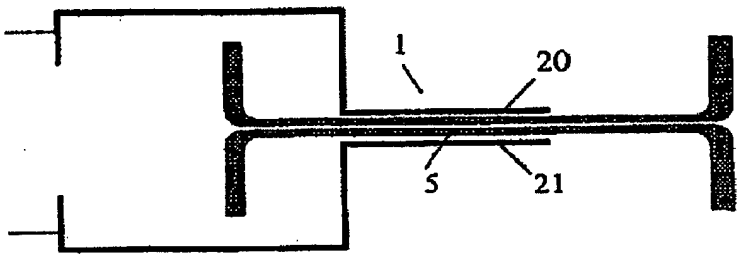

Fig. 3

Electrodes 20, 21 are disclosed as generating an electrical field "substantially perpendicular to a longitudinal axis of the flow channel," (col. 14, lines 61-63). The electrical field produces deflection of electrically charged particles "away from the sample containing particles flowing in the micro channel," (col. 14, lines 65-67). Blankenstein thus discloses only a separation role for dielectrophoresis, not a role in transport. In contrast, claim 1 recites "a transport mechanism configured to move portions of the mixture in parallel from the input reservoir," such that a plurality of sorter units receive the portions, and "wherein the transport mechanism is configured to move particles by dielectrophoresis." Blankenstein does not teach or suggest such a transport mechanism operating by dielectrophoresis. Therefore, for at least these reasons, claim 1 should be allowed. Claims 2-13 and 51, which depend from claim 1, also should be allowed for at least the same reasons.

II. ***Restriction Requirement and Withdrawal of Claims***

The Examiner restricted the claims to one of the following groups:

Group I: Claims 1-13 and 51, drawn to a sorting device utilizing dielectrophoresis;

Group II: Claims 15, 16, 18-21, and 52, drawn to a sorting device utilizing a piezoelectric mechanism and/or heater; OR

Group III: Claims 41-50, drawn to a sorting device in communication with a microplate.

Applicants do not traverse the restriction requirement.

The Examiner also asserted a constructive election of Group I by applicants, and withdrew the claims of Groups II and III from consideration. The Examiner justified this withdrawal of claims by suggesting that only the invention of Group I was presented originally for prosecution on the merits. Applicants traverse the withdrawal of claims without an actual election by applicants, because the inventions of Group II and Group III were presented originally for prosecution on the merits, either in broader form (Group II) or in very closely corresponding form (Group III). In particular, the current form of independent claim 15 (of Group II) is a narrower version of the invention of original claim 15, which was examined previously by the Examiner. Furthermore, independent claim 41 corresponds very closely to original claim 12, which recites "the different receiver structures are wells of a microplate." Accordingly, applicants request reconsideration of the withdrawal of claims without an actual election by applicants.

III. Conclusion

Applicants believe that this application is now in condition for allowance, in view of the above remarks. Accordingly, applicants respectfully request that the Examiner issue a Notice of Allowability covering the pending claims. If the Examiner has any questions, or if a telephone interview would in any way advance prosecution of the application, please contact the undersigned attorney of record.

Respectfully submitted,

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CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this correspondence is being facsimile transmitted to Examiner J. Miller, Group Art Unit 3653, Assistant Commissioner for Patents, at facsimile number (571) 273-8300 on June 6, 2006.

Christie A. Doolittle